WISCONSIN DIVISION OF PUBLIC HEALTH
Department of Health and Family Services

TB Fact Sheet Series

THE IMPORTANCE OF RIFAMPIN

Rifampin plays a fundamental role in the management of patients with active tuberculosis (TB). That role is not always fully understood. Rifampin and isoniazid (INH) are by far the most effective anti-tuberculosis agents; both are prescribed whenever possible. It is possible, for patients with INH-resistant TB to respond well to short-course (6-month) chemotherapy, even without the benefit of INH. Patients with rifampin-resistant TB, on the other hand, do not respond well to short-course chemotherapy.[1]

- No treatment course shorter than 18 months has an acceptable success rate without a rifamycin in the regimen.
- Rifampin should always be used in initial anti-tuberculosis treatment, unless the patient has an isolate documented to be rifampin resistant.

Drug regimens for patients infected with the human immunodeficiency virus (HIV) pose a special challenge when protease inhibitors are also indicated. Protease inhibitors and rifampin usually should not be taken together.

Patients should not be denied the benefits of rifampin because of minor side effects. Among the more than 1,000 patients treated for TB disease each year in the New York City Department of Health chest clinics, fewer than 1% have had to permanently discontinue rifampin because of serious adverse effects; this rate is similar to that found in a longitudinal study of a large sample of comparable patients.[2] Among patients treated by other providers, rates of permanent discontinuation of rifampin are much higher.

Conditions for which rifampin is sometimes *inappropriately discontinued* include the following:

- *Rash*. Rash from anti-TB treatment usually results from pyrazinamide, not rifampin. If minor rashes and acneiform reactions to rifampin occur, they are virtually always self-limiting or can be treated symptomatically.

- *Gastritis*. Gastritis from rifampin occurs occasionally, but is virtually never a valid reason for discontinuation of the drug. In individuals with severe gastritis, rifampin can be given with food (although absorption may be less), or the dose may be gradually increased from 150 mg/day to 600 mg/day over a 7-10 day period.

- *Mild hepatitis.* Asymptomatic elevation of liver enzymes (3-5 x normal) is generally not a reason to discontinue anti-TB medications.[2]

- *Methadone interaction.* Patients on rifampin will need an **increase** in their methadone dose by an average of 50% to prevent opiate withdrawal. *Directly observed therapy (DOT) is essential for patients taking rifampin and methadone together.* DOT not only ensures

adherence to TB treatment, but it also helps prevent patients from overdosing on methadone as a consequence of taking the rifampin.

- *Idiosyncratic reactions.* If such reactions are not life threatening, they can sometimes be averted by using rifabutin instead of rifampin, at a dosage of 300 mg / day.

Rifabutin, besides averting idiosyncratic reactions for some patients, may also reduce interactions with other drugs, including methadone, the protease inhibitor indinavir, and possibly the recently approved protease inhibitor nelfinavir. Although there is less evidence for the effectiveness of rifabutin in the treatment of TB than there is for rifampin, it is likely to have a similar efficacy.[3] Rifampin remains the drug of choice when it can be used.

Serious adverse reactions to rifampin are relatively rare, but in some patients they may be severe.[4] DOT--the standard of care for TB patients--helps providers monitor patients for drug interactions and severe adverse effects such as the following:

- *Hepatitis, particularly with a cholestatic picture.* This can be life threatening.

- *Flu-like symptoms, immune-mediated thrombocytopenia and renal failure.* Intermittent (two or three times weekly) tuberculosis treatment can lead to these reactions.

- *Poor tolerance of rifampin.* HIV-infected patients may find rifampin difficult to tolerate.

For more information, contact the Tuberculosis Program at (608) 266-9692.

REFERENCES AND NOTES

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[4] Grosset J and Leventis S. Adverse effects of rifampin. *Rev Infect Dis* 1983;5(Suppl 3):5440-6.